



First record of *Prenanthes aitchisoniana* (Beauv.) Roohi Bano & Qaiser (Asteraceae) from India

Gunjan Sud

Department of Botany, Panjab University, Chandigarh-160014, India
E-mail: sud.gunjan17@gmail.com

Abstract: *Prenanthes aitchisoniana* (Asteraceae) is recorded for the first time in India from the Western Himalayan state of Himachal Pradesh. So far it is known from a single locality in Afghanistan and three in Pakistan. A brief taxonomic description, images and location map of this uncommon taxon are provided here.

Key words: new record; distribution extension; rare species; Himachal Pradesh; Kinnaur; Nichar

Prenanthes L. (Asteraceae) belongs to the tribe Cichorieae, and was first established by LINNAEUS (1753) who described eight species within it. The number of species within the genus has been a subject of controversy to date. Divergent views on the issue have been put forth by various authors from time to time. BREMER (1994) and MABBERLEY (2008) have inscribed about thirty species distributed in Central and South Europe, Asia, Africa and North America by accepting the wider circumscription. In India the genus is represented by six species (HOOKER 1881; RAO et al. 1988; MAMGAIN & RAO 1995) which are mainly found in the Eastern Himalayan region, with only two species: *P. brunoniana* Wall. and *P. violaeifolia* Decne. occurring in the Western Himalaya including Himachal Pradesh. A recent collection of *P. aitchisoniana* (Beauverd) Bano & Qaiser from this region raises the number of species from India to seven and that from the state to three.

The genus *Prenanthes* L. differs from its closely allied genus *Lactuca* L. in having nodding capitula and beakless cypsela that are narrow towards the base and have a truncate or rounded apex.

Floristic botanical explorations were undertaken by the author throughout Himachal Pradesh in the Western Himalayan region of India, as a part of a survey of the family Asteraceae in the state. Plant specimens belonging to the family were collected from diverse ecological habitats. Following the herbarium methodology, voucher specimens were deposited in the herbarium of the Panjab University Chandigarh (PAN). Identification of specimens was based on literature surveys and intensive herbarium consults

through personal visits to national institutions and virtual collections. Electronic resources including Angiosperm Phylogeny Website (APweb), Plant List, the IUCN Red List and others were used as sources of current information on the taxa. During the course of identifications an individual specimen of *Prenanthes* which was quite different from the other species of the genus reported earlier from India caught attention. After thorough examination it was identified and confirmed by the specialist of the family as *Prenanthes aitchisoniana*. Important characters, photographs (Figure 1) and a location map (Figure 2) of the taxon are provided, as well as a key to all the species of *Prenanthes* occurring in India.

Prenanthes aitchisoniana (Beauverd) Bano & Qaiser
(BEAUVERD 1910: 137; BANO & QAISER 2009: 2089)

Cicerbita aitchisoniana Beauverd (BEAUVERD 1910: 137) — RECHINGER 1977: 184, fig. 123.

An erect perennial herb up to 75 cm tall; *stem* glabrous; *leaves* alternate, both basal and cauline; basal leaves larger, petiole unwinged, blade pinnatisect with variable number of segments, base hastate-cordate, serrulate to sinuate dentate, acute to acuminate, pubescent; cauline ones smaller, very short petioled, sometimes pinnatisect; *inflorescences* homogamous, drooping, few to several in sub-racemes, pedunculate, peduncles thin; involucre bracts 2-seriate, narrow cylindric; outer ones shorter, ovate-lanceolate, apex subacute; inner ones longer, linear-oblong to sub-spathulate, apex obtuse; *flowers* 3 per capitulum, all ligulate, blue-purplish; *cypsela* black, apex rounded to truncate, beakless; *pappus* white, fragile; outer ones very short, inner ones longer. Figure 1.

Habitat: Grows between 1200–2200 m on the forest floor of *Cedrus deodara* (Roxb. ex D. Don) G. Don.

Occurrence: Rare.

Collection examined: Kinnaur, 31.5581°N, 077.9467°E, Nichar forest area, elevation ca. 2,200 m, 9 September 2007; G. Sud 19823 (PAN).

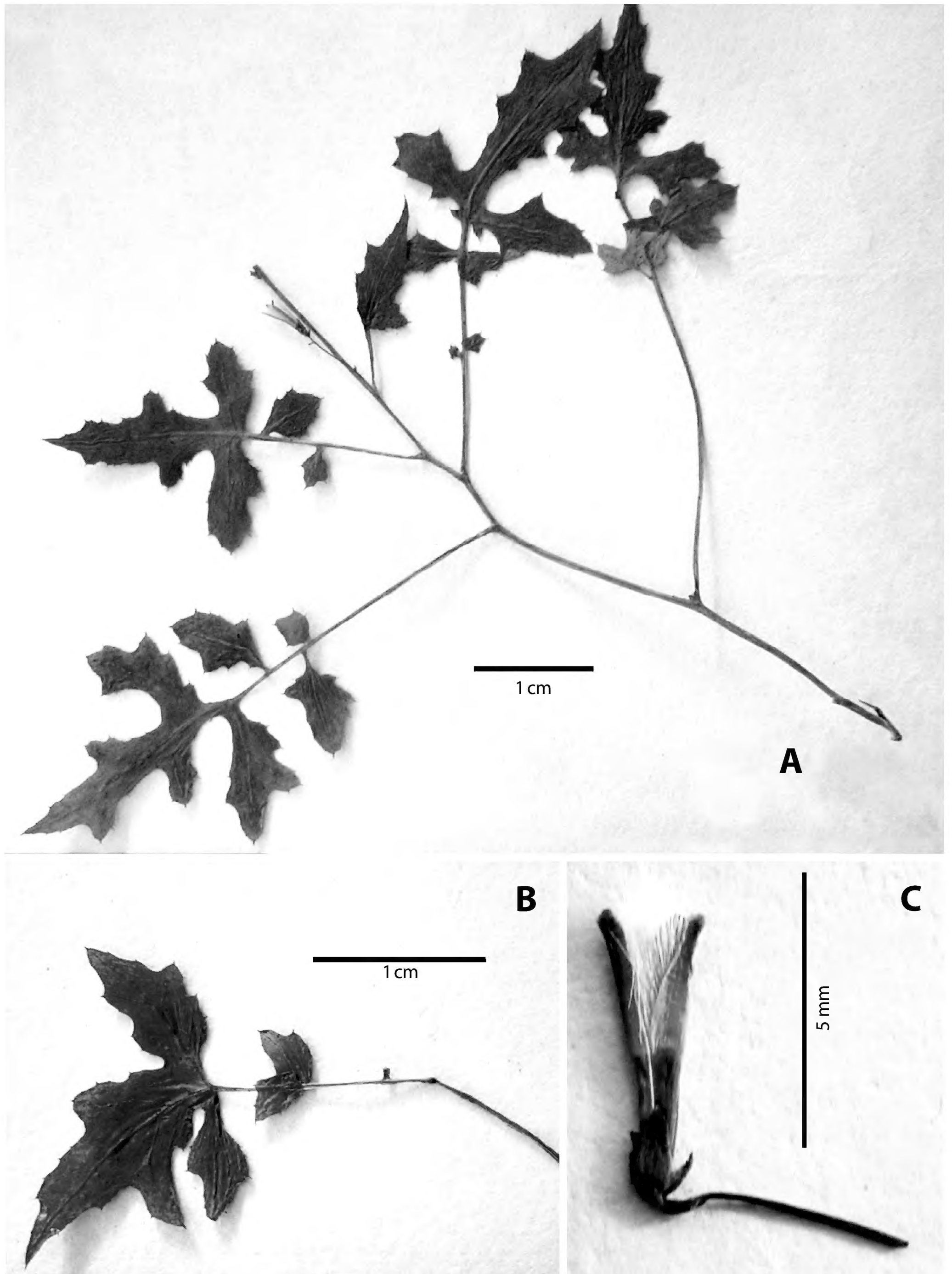


Figure 1. Morphology of *Prenanthes aitchisoniana*. **A.** Habit. **B.** Leaf. **C.** Magnified head.

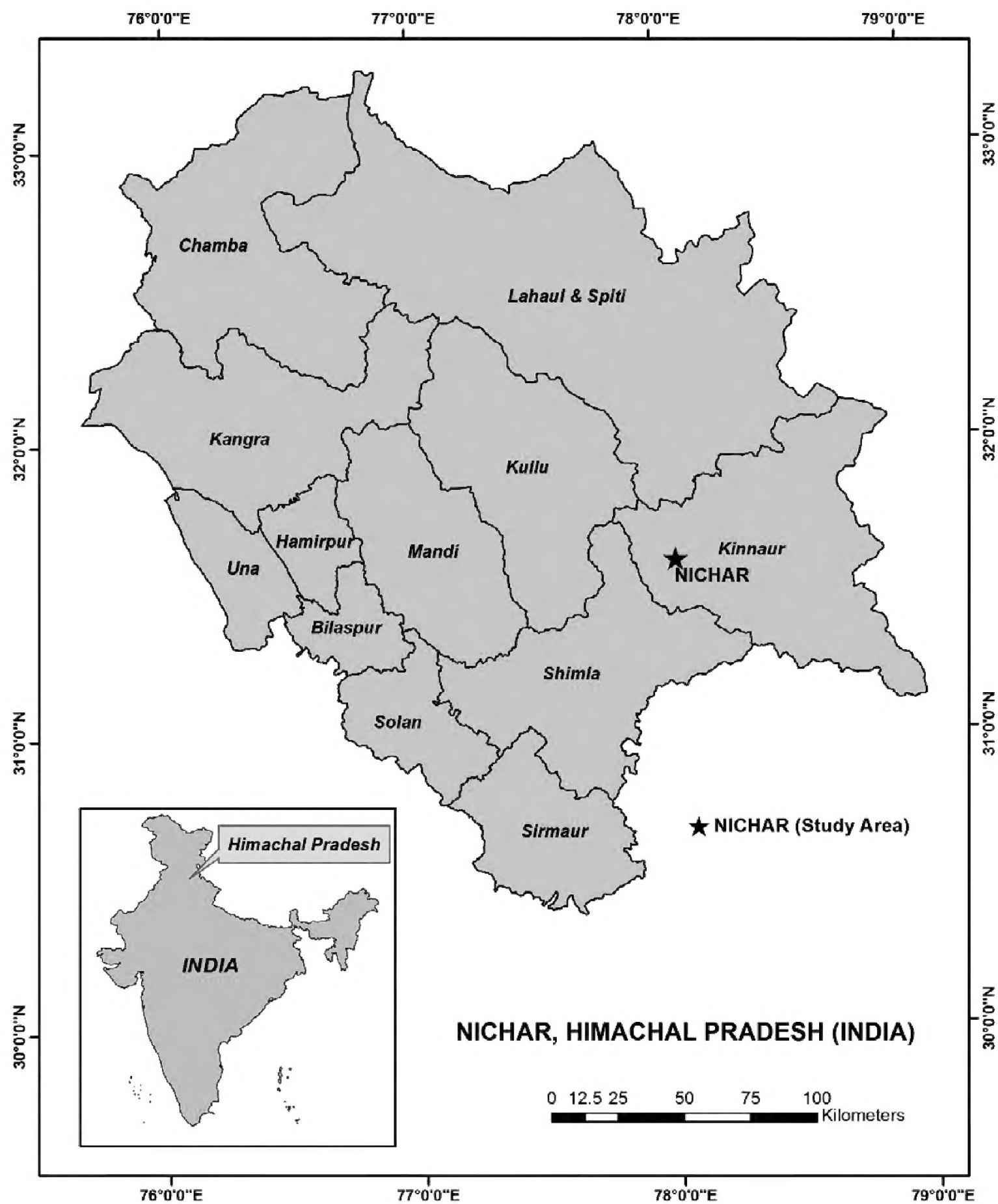


Figure 2. Map indicating Nichar: the locality of species collection. A smaller map on the left shows the location of Himachal Pradesh in India.

Additional collection examined: Eastern Afghanistan, Kurrum Valley, December 1879, Aitchison 997-1 (G, TYPE).

Key to the species of *Prenanthes* occurring in India

- 1a. Rambling herbs *P. scandens*
- 1b. Erect herbs 2
- 2a. Outer pappus absent *P. khasiana*
- 2b. Outer pappus present..... 3
- 3a. Short herbs; stems usually less than 1 m tall 4
- 3b. Tall herbs; stems usually more than 1 m tall 5
- 4a. Petiole winged; cypsela pale brown *P. violaeifolia*
- 4b. Petiole unwinged; cypsela black.....*P. aitchisoniana*
- 5a. Leaves polymorphous along the stem *P. brunoniana*
- 5b. Leaves not polymorphous along the stem 6
- 6a. Leaves hastate, cordate; pappus pale white*P. hookeri*
- 6b. Leaves deltoid; pappus milky white. *P. sikkimensis*

Prenanthes aitchisoniana is a poorly represented taxon with a few sporadic collections from Afghanistan and Pakistan. The type later established as *Cicerbita aitchisoniana* Beauverd in 1910 was first collected by Aitchison in 1879 from the Kurrum valley in Eastern Afghanistan. Later, ROOHI BANO & QAISER (2009) proposed a new combination *P. aitchisoniana* after studying earlier collections of the taxon from three localities in Pakistan. The species was so far unknown from India. Its present collection from the forest area in Nichar division of Kinnaur district in Himachal Pradesh affirms its presence in India besides representing an extension of ca. 476 km east from the nearest known site of collection in Pakistan.

The conservation status of *P. aitchisoniana* according to the IUCN (2015) criteria is unknown as the species has not been included in the list of species assessed. Although this study has not assessed the species' IUCN conservation

status, our results indicate that in India it can be considered a rare species, as a single specimen of the taxon has been collected so far. Furthermore, it also strengthens the need of collecting efforts to contribute to a better understanding of such a poorly known taxon.

In addition, *P. aitchisoniana* has unresolved taxonomic issues with several other *Prenanthes* species which need to be properly circumscribed and placed, as it is considered to be a synonym of *Kovalevskiella aitchisoniana* (Beauverd) Kamelin (1993). Studies at the molecular level might help in resolving the controversy pertaining to its placement in respect to the proper circumscription of related genera.

ACKNOWLEDGEMENTS

The author is grateful to Prof. Abdul Ghafoor and Dr. Roohi Bano for confirming the species. Thanks are also due to Dr. Vishwa Bahdhu Singh for preparing the map.

LITERATURE CITED

- BANO, R. & M. QAISER. 2009. A new species and a new combination of *Prenanthes* L., (Lactuceae-Asteraceae) from Pakistan and Kashmir. *Pakistan Journal of Botany* 41(5): 2087–2091.
- BEAUVERD, G. 1910. Revision systématique des section, espèces et variétés due genre *Cicerbita*. *Bulletin de la Société Botanique de Genève* (2^e Série) 2(5): 115–144. <http://biodiversitylibrary.org/page/5521169>
- BREMER, K. 1994. *Asteraceae cladistics and classification*. Portland: Timber Press. 752 pp.
- CHG (CATALOGUE DES HERBIERS DE GENÈVE). [2016]. *Catalogue des herbiers de Genève*. Geneva: Conservatoire and Jardin botaniques de la Ville de Genève. Accessed at <http://www.ville-ge.ch/musinfo/bd/cjb/chg>, 8 January 2016.
- HOOKE, J.D. 1881. *Flora of British India*. Vol. 3: 219–419. London: L. Reeve and Co. doi: <https://doi.org/10.5962/bhl.title.678>
- IUCN (INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE). 2015. *The IUCN Red List of threatened species*. Version 2015.4. Accessed at <http://www.iucnredlist.org>, 12 February 2016.
- JARVIS, C. 2007. *Order out of chaos*. Linnaean plant names and their types. London: Linnean Society of London/Natural History Museum. 610 pp.
- LACK, H. W. 2007. Tribe Cichorieae; pp. 180–199, in: J.W. KADEREIT & C. JEFFREY (eds.). *K. Kubitzki's "The Families and Genera of Vascular Plants"*. Asterales. Vol. 8. Berlin: Springer Science and Business Media.
- LINNAEUS, C. 1753. *Species plantarum: exhibentes plantas rite cognitatas, ad genera relatas, cum differentiis specificis, nominibus trivialibus, synonymis selectis, locis natalibus, secundum systema sexuale digestas ...* 2: 561–1200. Stockholm: Laurentius Salvius. doi: <https://doi.org/10.5962/bhl.title.669>
- MABBERLEY, D.J. 2008. *Mabberley's plant-book: a portable dictionary of plants, their classification and uses*. 3rd edition. Cambridge: Cambridge University Press. 1021 pp.
- MAMGAIN, S.K. & R.R. RAO. 1995. *Prenanthes*; pp. 312–316, in: P.K. HAJRA, R.R. RAO, D.K. SINGH & B.P. UNİYAL (eds.). *Flora of India — Asteraceae*. Vol. 12. Calcutta: Botanical Survey of India.
- RAO, R.R. & B. DATT. 1996. Diversity and phytogeography of the Indian Compositae; pp. 445–461, in: D.J.N. HIND & H.J. BEENTJE (eds.). *Compositae: Systematics*. Proceedings of the International Compositae Conference, Kew. Vol. 1. Kew: Royal Botanical Gardens.
- RAO, R.R., H.J. CHOWDHURY, P.K. HAJRA, S. KUMAR, P.C. PANT, B.D. NAITHANI, B.P. UNİYAL, R. MATHUR & S.K. MAMGAIN. 1988. *Flora Indicae Enumeratio — Asteraceae*. Howrah: Botanical Survey of India. 119 pp.
- RECHINGER, K.H. 1977. *Flora Iranica, Compositae II — Lactuceae* 122: 1–5, 180–184. Graz: Akademische Druck und Verlagsanstalt.
- STEVENS, P. F. [2016]. *Angiosperm phylogeny website*. Version 1.4. St. Louis: Missouri Botanical Garden. Accessed at <http://www.mobot.org/mobot/research/APweb/>, 8 January 2016.
- THE PLANT LIST. 2010. Version 1.1. Accessed at <http://www.theplantlist.org>, 14 September 2010.

Received: 14 March 2016

Accepted: 22 February 2017

Academic editor: Juliana de Paula-Souza